

STORAGE BOX

BACKGROUND OF THE INVENTION

1. Field of the Invention:

The present invention relates to a storage box and more
5 particularly, to a folding collapsible storage box.

2. Description of the Related Art:

Various storage boxes of different materials are known and
commercially available for storing things. In order to save storage
space, collapsible storage boxes are developed. A known
10 collapsible storage box comprises a rectangular box body made of
soft fabric, horizontal and vertical rod members respectively
fastened to the four sides of each of the vertical lateral panels and
bottom panel of the box body, and a hard bottom plate attached to
the bottom panel inside the box body for supporting storage items.
15 This design of collapsible storage box is functional. However, it is
not attractive to consumers.

SUMMARY OF THE INVENTION

The present invention has been accomplished under the
circumstances in view. According to one aspect of the present
20 invention, the storage box comprises a lower box body, the lower
box body defining a top open chamber for storage items, an upper
box body, the upper box body defining a top open chamber for
storage items, means connecting between the upper box body and

the lower box body so that the upper box body can be turned horizontally relative to the lower box body between a received position where the upper box body and the lower box body are vertically arranged in a stack and the top open chamber of the lower box body is closed by the upper box body, and an extended position where the upper box body and the lower box body are set in an offset relationship and the upper box body defines with the lower box body a bottom open chamber below the top open chamber of the upper box body for storage items. According to another aspect of the present invention, the upper body and the lower body can be made of canvass, each having a plurality of vertically extended folding lines through which the box bodies can be folded into a flat collapsed condition. According to still another aspect of the present invention, at least one hard connecting plate is provided for fastening to the upper box body and the lower box body to hold the upper box body and the lower box body in the extended position. According to still another aspect of the present invention, each hard connecting plate comprises two male fastening elements, and the upper box body and the lower box body each comprise at least one female fastening element adapted to receive the male fastening elements of the at least one connecting plate. Further, the upper box body and the lower box body can be made having a rectangular or cylindrical configuration.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is an elevational view of a storage box constructed according to the present invention.

FIG. 2 is an exploded view of the storage box shown in FIG.

5 1.

FIG. 3 is a schematic drawing showing folding of the storage box shown in FIG. 2 after removal of the top cover and the hard bottom plates from the upper box body and the lower box body.

10 FIG. 4 is corresponding to FIG. 3, showing the storage box fully collapsed.

FIG. 5 is an elevational view of an alternate form of the storage box according to the present invention.

15 FIG. 6 is an elevational view of another alternate form of the storage box according to the present invention.

FIG. 7 is an elevational view of still another alternate form of the storage box according to the present invention.

FIG. 8 is corresponding to FIG. 7, showing the storage box set in the extended position.

20 FIG. 9 is an extended view of still another alternate form of the storage box according to the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

In FIG. 1, a storage box is shown constructed according to

one embodiment of the present invention and covered with a top cover 42.

FIG. 2 is an exploded view of the storage box shown in FIG. 1, showing the upper box body 10 horizontally turned outwards from the lower box body 20. The upper box body 10 and the lower box body 20 are made of soft fabric (for example, canvass) with the respective four horizontal top sides and four horizontal bottom sides and four vertical angles respectively supported with a respective rigid rod member to maintain the shape. A hard bottom plate 40 is attached to the top surface of the bottom panel of the box body 10 or 20 for supporting storage items. The upper box body 10 defines a top open chamber 12 for storing things. The upper box body 10 further has an angled extension wall vertically downwardly extended from the outer lateral side and the back side, thereby defining a bottom open chamber 14 after the upper box body 10 has been extended out of the lower box body 20. The upper box body 10 further has vertically extended folding lines 16, and is provided with a fastening device 18. A support 28 is hinged to the outer surface of the inner lateral side of the lower box body 20, and can be turned relative to the lower box body 20.

The lower box body 20 is symmetrical to the upper box body 10, having an angled extension wall vertically upwardly extended from the outer lateral side and the back side, thereby

defining a top open chamber 22 for keeping things. The lower box body 20 further comprises The upper box body 10 has folding lines 16 in the front, and is provided with a fastening device 36 corresponding to the fastening device 18 of the upper box body 10.

5 A flexible hinge 38 is connected between one vertical angle of the upper box body 10 and one vertical angle of the lower box body 20 so that the upper box body 10 and the lower box body 20 can be horizontally turned relative to each other between the received position where the upper box body 10 and the lower box body 20 are arranged in a stack (see FIG. 1), and the extended position where the upper box body 10 and the lower box body 20 are in an offset relationship (see FIG. 2). After the upper box body 10 has been extended out of the lower box body 20, the support 28 is turned outwards from the lower box body 20 to stop the top side against the bottom side of the upper box body 10, giving a support to the upper box body 10 (see FIG. 2). When set in the extended position, the top open chamber 12 and bottom open chamber 14 of the upper box body 10 as well as the top open chamber 22 of the lower box body 20 are opened for storing things.

20 After removal of the hard bottom plates 40 from the upper box body 10 and the lower box body 20, the support 28 is turned inwards and closely attached to the lower box body 20, and then the upper box body 10 and the lower box body 20 are folded up along

the respective folding lines 16, 24 and received in a flat condition as shown in FIGS. 3 and 4.

Further, the extension wall of the upper box body 10 and the extension wall of the lower box body 20 are so arranged that the four vertical lateral sides of the storage box are maintained in a flush manner after the upper box body 10 and the lower box body 20 have been set in the received position. The upper box body 10 and the lower box body 20 may be respectively provided with a handle 34 for carrying.

FIGS. 5 and 6 show two different alternate forms of the storage box. As illustrated, a number of vertically linked upper box bodies 10 and a number of vertically linked lower box bodies 20 are hinged together and can be turned between the received position and the extended position like the embodiment shown in FIGS. 1~4. Further, connecting plates 30 may be used to connect the respective upper box bodies 10 to the respective lower box bodies 20 in the extended position. Each connecting plate 30 has male (female) fastening elements 32 at the ends for fastening to respective female (male) fastening elements (not shown) at the upper box bodies 10 and the lower box bodies 20.

FIGS. 7 and 8 show still another alternate form of the storage box according to the present invention. According to this embodiment, the upper box body 10 and the lower box body 20

have a cylindrical configuration. The upper box body 10 has a part of the bottom side connected to a part of the top side of the lower box body 20 in such a manner that the upper box body 10 can be turned horizontally relative to the lower box body 20 between the received position as shown in FIG. 7 and the extended position as shown in FIG. 8.

FIG. 9 shows still another alternate form of the storage box according to the present invention. According to this embodiment, the upper box body 10 and the lower box body 20 are respectively made of bamboo strips, and fastened together with a metal hinge 26.

Although particular embodiments of the invention have been described in detail for purposes of illustration, various modifications and enhancements may be made without departing from the spirit and scope of the invention. Accordingly, the invention is not to be limited except as by the appended claims.